

REMARKS

Applicants have received and carefully reviewed the Final Office Action of the Examiner mailed January 4, 2006. Claims 2 and 18 have been canceled and claims 1, 3, 11, 16, 19, and 23-29 have been amended. Support for the amendments is found in the specification, claims, and drawings as originally filed. No new matter has been added. Claims 1, 3-17, and 19-29 remain pending. Reconsideration and reexamination are respectfully requested.

Rejection under 35 U.S.C. § 102(e)

Claims 1, 11, 12, 16, and 25-29 are rejected as being anticipated by Suzuki et al. (US 2005/0030399 A1). The Examiner asserts that Suzuki et al. disclose the invention substantially as claimed. Applicants respectfully traverse the rejection. Suzuki et al. do not appear to teach a sensor in which a pixel is situated on a single level and an electronics circuit is also situated on that same single level, as is recited in independent claims 1, 11 16, and 25-29. Suzuki et al. appear to teach a multi-layered sensor, as shown in FIG. 3, which is a sectional view of the sensor. In particular, Suzuki et al. teach "wiring layer 38 including transistors and metallic wirings therein is provided on the other side of the silicon layer 31, and a substrate support member 39 is adhered to the lower side of the wiring layer 38." Emphasis added; see page 3, paragraph 45 and FIG. 3.

Additionally, independent claims 1, 11, 25, and 26, as amended, recite a pixel having a fill factor greater than 69, and independent claims 16 and 27-29 recite a means for electronically processing signals having an area that is a fraction of the area of the means for sensing infrared light. Suzuki et al. do not appear to teach such elements. Suzuki et al. is silent with regard to fill factor and sensing area. Suzuki et al. thus do not appear to teach each and every element of independent claims 1, 11 16, and 25-29. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection under 35 U.S.C. § 103(a)

Claims 1-10, 23, and 24 are rejected as being unpatentable over Mashio et al. (US 2001/0025926 A1). Independent claims 1, 23 and 24, as amended, recite a sensor having a pixel with a fill factor greater than 69 percent. Mashio et al. do not appear to teach such a sensor. The above claim language was presented in original claims 2 and 18. The Examiner asserts, with respect to claim 2, that while Mashio et al. do not disclose expressly a pixel wherein the fill factor is greater than 69 percent, it appears that in FIG. 2, the detecting portion occupies an area greater than 69 percent and would thus indicate a fill factor greater than 69 percent. Applicants respectfully traverse the rejection. FIG. 2 of Mashio et al. is not described as being drawn to scale, and additionally, the figure is only a partial view as indicated by the wavy lines at the left and right edges of the drawing. Thus, one of ordinary skill in the art would understand that FIG. 2 of Mashio et al. is merely an illustration of a general concept and not a scale rendering of an exact embodiment. As the Examiner acknowledges, Mashio et al. is silent with regard to pixel fill factor. Applicants submit that one of ordinary skill in the art cannot make any determination of fill factor based solely on the partial illustration provided in FIG. 2, without further guidance or suggestion by Mashio et al. Mashio et al. thus does not appear to teach or suggest the elements of independent claims 1, 23, and 24, or the claims dependent thereon. Reconsideration and withdrawal of the rejection are respectfully requested.

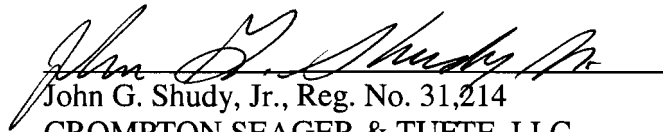
Claims 13-15 and 17-22 are rejected as being unpatentable over Suzuki et al. in view of Mashio et al. Suzuki et al. does not appear to teach the basic elements of independent claims 11 and 16, as amended, from which claims 13-15 and 17-22 depend. Mashio et al. do not appear to teach what Suzuki et al. lack. As set forth above, neither Suzuki et al. nor Mashio et al. appear to teach or suggest a sensor with a pixel having a fill factor greater than 69 percent. Additionally, neither reference appears to teach or suggest a sensor having a means for electronically processing signals having an area that is a fraction of the area of the means for sensing infrared light. Thus, even if one were to combine the teachings of Suzuki et al. and Mashio et al., one would not arrive at the invention as now claimed. Reconsideration and withdrawal of the rejection are respectfully requested.

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In view of the foregoing, all pending claims are believed to be in condition for allowance. Reconsideration and reexamination are respectfully requested. If a telephone interview would be of assistance, please contact the undersigned attorney at 612-677-9050.

Respectfully submitted,

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